STRUCTURE, PRODUCTIVITY, AND NUTRIENT CYCLING-- IMPORTANT BUT LITTLE KNOWN PARAMETERS OF HAWAII'S KOA-OHIA FORESTS

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Maintenance and recovery of productive koa and koa-ohia forest ecosystems is necessary to assure production of a variety of goods and services including: (1) unpolluted clean water for domestic, agricultural, and industrial use; (2) habitat for native plants and birds; (3) desirable forest recreation opportunities; and (4) acceptable wood and other plant products. To maintain and improve these limited and often threatened ecosystems, we must have basic information about species composition; the nature, amount and distribution of organic matter; and the nutrient content of structural components. Information is also needed about biotic and abiotic processes including net primary productivity, nutrient cycling, phenology, and resiliency to stress. This paper briefly (a) examines the potential importance of such information and how it has been applied toward maintaining some continental forest ecosystems, (b) reviews some of the presently available research findings about structural and functional characteristics of Hawaiian forests, and (c) outlines research being planned for the next five years by the Institute of Pacific Islands Forestry.